

Impact of a Mock OSCE on Pharmacy Students' Self-Reported Confidence and Competency in PPCP Use

Eleonoso Cristobal, PharmD¹, Nora Garabedian, PharmD¹, Lisa Goldstone, MS, PharmD¹
USC Alfred E. Mann School of Pharmacy and Pharmaceutical Sciences¹

INTRODUCTION

- Mock objective structured clinical examinations (MOSCE) can expose first-year pharmacy (P1) students to the Pharmacists' Patient Care Process (PPCP) in a low-stakes environment and increase student confidence¹
- However, self-reported confidence in the PPCP following a MOSCE may not be reflective of actual student ability to apply PPCP concepts in the care of patients²
- Student self-reported confidence is commonly used as a surrogate for proof of learning in academia²
- It is important to determine whether voluntary participation in a MOSCE results in increased competency in application of PPCP skills^{1,3}

OBJECTIVES

- Primary: Determine whether participation in a MOSCE resulted in increased PPCP case scores in a required P1 course compared to students who did not participate in the MOSCE
- Secondary: Correlation between confidence and PPCP case scores for students who participated in the MOSCE

METHODS

- Study population: P1 students in a required Introduction to Therapeutics (ITT) course
- Study groups
 - MOSCE – participation in a MOSCE prior to the PPCP cases in the ITT course
 - nMOSCE - no MOSCE participation prior to the PPCP case in the ITT course
- Study endpoints
 - Difference in mean PPCP score for ITT adult and geriatric cases between MOSCE and nMOSCE groups
 - For MOSCE group only, correlation between MOSCE confidence scores and PPCP case scores
- Statistical analysis
 - Independent T-test with equal variance to compare mean case discussion scores between the two groups (significance $p<0.05$)
 - Pearson correlation test to determine the correlation between confidence and case discussion scores (significance $p<0.05$)
- This study was approved as exempt by the University of Southern California Institutional Review Board

RESULTS

Table 1. Difference in PPCP Case Scores Between MOSCE and nMOSCE Groups

ITT PPCP Case Type	ITT PPCP Case Score		P-value
	MOSCE (N=114)	nMOSCE (N=56 adult, 57 geriatric)	
Adult (mean \pm SD)	65.9 \pm 4.6	66.1 \pm 4.18	0.84
Geriatric (mean \pm SD)	67.5 \pm 3.56	67.3 \pm 3.66	0.71

Table 1: Adult and geriatric ITT PPCP scores had no statistically significant difference among students who attended the MOSCE versus those who did not

Figure 1. Correlation Between Student Confidence Post-MOSCE and Competence in PPCP Case Application

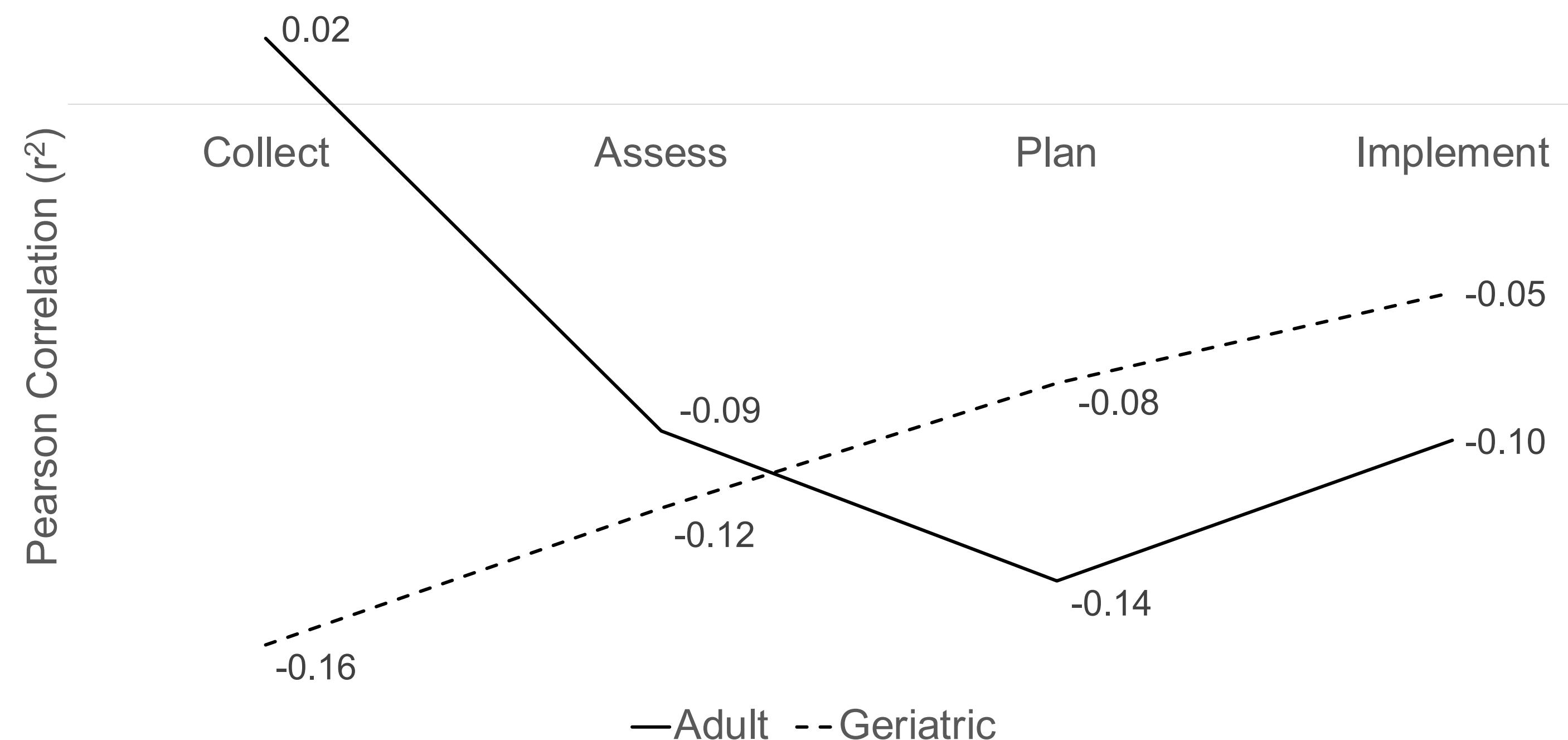


Figure 1: Correlation between post-MOSCE self-reported confidence scores and adult and geriatric ITT PPCP case scores shows no correlation to slightly negative correlation although statistically insignificant

KEY TAKEAWAYS

1 - Student self-perception should NOT be used as the primary method to assess the effectiveness of a teaching methodology

2 - Self-reported confidence is NOT a reliable outcome to assess competency of P1 students

DISCUSSION

- No difference in case scores for students who participated in the MOSCE versus those who did not (Table 1)
 - Previous exposure to the PPCP via MOSCE may have altered students study habits, which may have impacted case scores (i.e., prepared less for the cases as they felt more confident)²
 - Students who were already performing at a higher level in terms of the PPCP may have self-selected to not participate in the MOSCE
 - The MOSCE may be beneficial for students with lower baseline confidence, but further studies are necessary to make this determination
- No correlation between self-reported confidence in the PPCP steps and competency measured by a standardized grading rubric (Figure 1)

Limitations

- Adult and geriatric case grading rubrics did not specifically have a grading portion for the collect, assess, plan, implement portions of the PPCP
- Grading variability by residents

Future directions

- Determine other factors which may predict the need for further skill building activities to ensure student competence in PPCP skills

REFERENCES

- Cristobal E, Perkins K, Kang C, Chen S. A Mock OSCE for First-Year Pharmacy Students and its Impact on Self-Reported Confidence in Applying the Pharmacists' Patient Care Process. ASHP 2022 Midyear Clinical Meeting and Exhibition. Las Vegas, Nevada. December 2022
- Persky AM, Lee E, Schlesselman L. Perception of learning versus performance as outcome measures of educational research. Am J Pharm Educ. 2020;84(7):7782.
- Noureldin M, Gordon S, McCafferty R, Campbell J. Evaluation of pharmacy students' self-efficacy and performance in applying components of the Pharmacists' Patient Care Process within a capstone course and during advanced pharmacy practice experiences. *Science Direct*. <https://doi.org/10.1016/j.cptl.2021.09.028>

DISCLOSURES

No financial disclosures for study authors

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